



(11) Publication number:

0 378 775
A2

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 89120988.4

(51) Int. Cl.⁵: **H04M 1/72, H04M 1/274**

(22) Date of filing: 13.11.89

The title of the invention has been amended
(Guidelines for Examination in the EPO, A-III,
7.3).

(30) Priority: 26.11.88 GB 8827670

(43) Date of publication of application:
25.07.90 Bulletin 90/30

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

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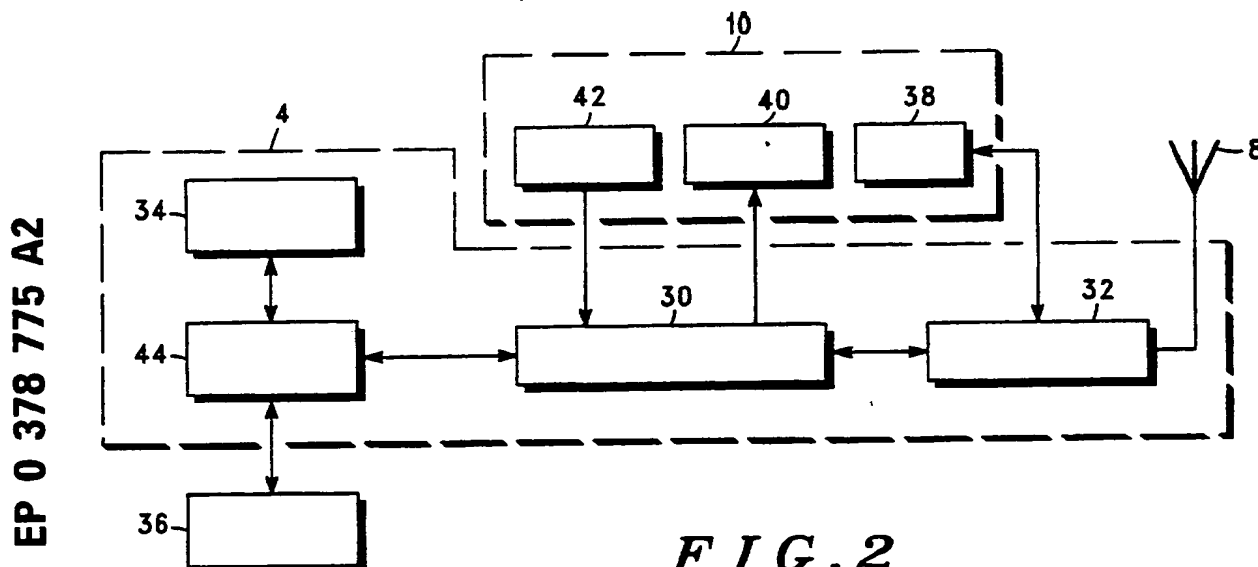
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(54) **Radiotelephone.**

(57) A radio (2) having: a first memory (34) for storing first information items; memory receiving means (18) for temporarily receiving a second memory (20, 36) for storing second items of information; memory access means (30, 44) for accessing both said first and second memories; and user selective transfer

means (42, 30, 44) for causing an information item from one said memories to be transferred to the other of said memories. In a preferred form the radio is a radiotelephone, the first and second items of information are telephone numbers and the second memory is a magnetic card or a smart card.



RADIO

Introduction

This invention relates to radios and particularly to radios of the kind having first memories for holding first information items and being arranged to receive second memories for holding second information items.

An example of such a radio is a radiotelephone in which a first memory holds telephone numbers which can be dialled by a user via abbreviated dialling techniques which are well known in the art. Such a radiotelephone may be arranged to receive a memory carrier, for example in the form of a magnetic card, providing a second memory holding telephone numbers which the user can dial in a similar abbreviated way to the numbers in the first memory (see, for example Japanese patent application J62020454A). Such a facility allows a user to dial abbreviatedly with any suitably equipped radiotelephone from a personally chosen list of telephone numbers stored in his or her own magnetic card or other memory carrier.

It is an object of the present invention to provide a radio of the above kind wherein the utility of the first and second memory facilities may be enhanced.

Summary of the Invention

In accordance with the present invention there is provided a radio having:
a first memory for storing first information items;
memory receiving means for temporarily receiving a second memory for storing second items of information;
memory access means for accessing both said first and second memories; and
user selective transfer means for causing an information item from one said memories to be transferred to the other of said memories.

Brief Description of Drawings

One radiotelephone in accordance with the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 shows a perspective view of the radiotelephone; and

Figure 2 shows a block schematic circuit diagram of part of the radiotelephone.

Description of Preferred Embodiment

Referring firstly to Figure 1, a radiotelephone 2 has a system unit 4 with carrying handle 6 and antenna 8, and a handset 10 removably located in the system unit and connected thereto by a coiled cord 12. The handset 10 is provided with a group of twenty-four keys 14 and a visual display 16, as well as mouth- and ear-pieces (not shown).

The system unit 4 is also provided, adjacent the handset location, with a receiving slot 18 for a memory card 20. As shown, a fully inserted memory card 20 protrudes from the slot so as to facilitate later removal.

In use of the radiotelephone, a user can abbreviatedly dial any of up to one hundred stored telephone numbers by first pressing a pre-designated "abbreviated dial" key (e.g. key 24) on the handset 10 and then pressing two numeric keys (00 - 99) defining a memory location in which is stored the number to be dialled. Memor locations 00 - 39 are pre-defined as being "user" locations for holding numbers stored in the user's memory card 20, while the remaining codes 40 - 99 are pre-defined as being "system" locations for holding numbers stored in the system unit 4.

Telephone numbers for abbreviated dialling may be stored directly in the memory locations 00 - 39 of the memory card 20 or in the system unit memory locations 40 - 99 by the user (i) pressing a pre-designated "store" key (e.g. key 26), (ii) entering the desired telephone number by pressing the relevant numeric keys, (iii) pressing the "store" key again, then (iv) pressing two numeric keys (00 - 39 or 40 - 99) defining the memory location in which the number is to be stored.

As an alternative to the above method of storing telephone numbers for future abbreviated dialling by entering each digit of the number as necessary, the radiotelephone 2 is also provided with the facility to transfer stored numbers between the memory locations of the system unit 4 and the memory locations of the memory card 20. Stored number may be transferred between the two types of memory locations by the user (i) pressing the "store" key twice, (ii) pressing two numeric keys (00 - 39 or 40 - 99) defining the memory location from which the stored number is to be transferred, (iii) pressing the "store" key again, then (iv) pressing two numeric keys (40 - 99 or 00 - 39) defining the memory location into which the stored number is to be transferred. It will be appreciated that, alternatively to pressing the "store" key twice to initiate the transfer, if desired another of the keys 14 may be dedicated for use as a "transfer" key.

Associated with each memory location is storage capacity for alphabetic information relating to the telephone number stored therein. Thus the name can be stored of the person whose number is stored. The data in the memory locations 00-39 of the memory card is only accessible by individual selection of the corresponding short number, 00-39. The facility is provided to transfer all stored numbers and associated alphabetic information from the memory card to the system unit and the facility is provided to search, scan and recall the data alphabetically. In this manner all the memory locations 00-99 can be searched.

It will be readily appreciated that this transfer facility enhances the usability of abbreviated dialling with the radiotelephone by obviating the need for numbers to be re-keyed in order to be stored, and so removing the risk of mis-keying. Instead numbers may be transferred or "swapped" with ease.

Referring now also to Figure 2, in block schematic form the radiotelephone 2 comprises in the system unit 4 a microprocessor 30, a radio transceiver 32 and a first set of memory locations 34. A removable set of second memory locations 36 may be provided (in the form of the memory card 20). An audio section 38, display section 40 and keypad section 42 are provided in the handset 10. Transfer means 44 are also provided in the system unit, under control of the microprocessor 30. In use of the radiotelephone 2, the microprocessor 30 receives inputs from the keypad section 42 and from the first and/or second sets of memory locations and controls the transceiver 32, the display section 40 and the transfer means 44 to operate as described above.

It will be understood that memory card 20 may be in the form of a magnetic card or, preferably, in the form of a "smart" card, whereby for example call charging and other transaction processing may be performed within the card.

It will be appreciated that although in the above example there has been described the facility to transfer stored telephone numbers between first and second memories in a radiotelephone, the invention may be more broadly applied to the transfer of any stored information between first and second memories in any radio.

It will be appreciated that the invention has been described above by way of example only and that modifications to the above example may be made without departing from the inventive principle.

Claims

1. A radio having:

a first memory for storing first information items;
memory receiving means for temporarily receiving a second memory for storing second items of information;

memory access means for accessing both said first and second memories; and

user selective transfer means for causing an information item from one of said memories to be transferred to the other of said memories.

2. A radio according to claim 1 wherein the memory receiving means is arranged to receive the second memory comprising a magnetic card.

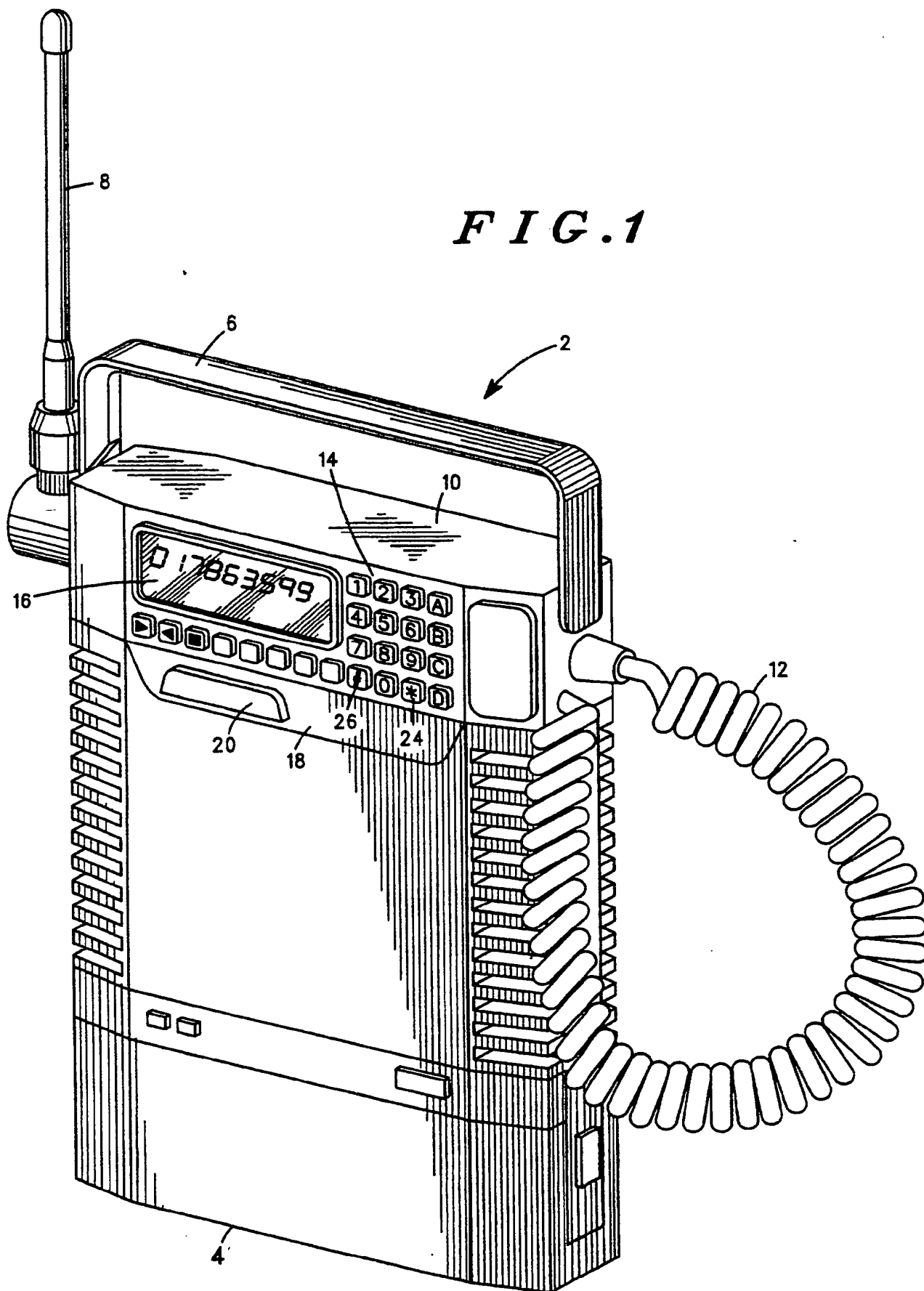
3. A radio according to claim 1 wherein the memory receiving means is arranged to receive the second memory comprising a smart card.

4. A radio according to claim 1, 2 or 3 wherein the radio is a radiotelephone.

5. A radiotelephone according to claim 4 wherein the first and second information items are telephone numbers.

6. A radiotelephone according to claim 5, wherein the capacity is provided for the telephone numbers to be accompanied by alphabetic information, and wherein transfer means are provided for causing all telephone numbers and accompanying alphabetic information in the second memory to be transferred to the first memory and means are provided for carrying out searching operations on the basis of the alphabetic information on the information items in the first memory after such a transfer.

FIG. 1



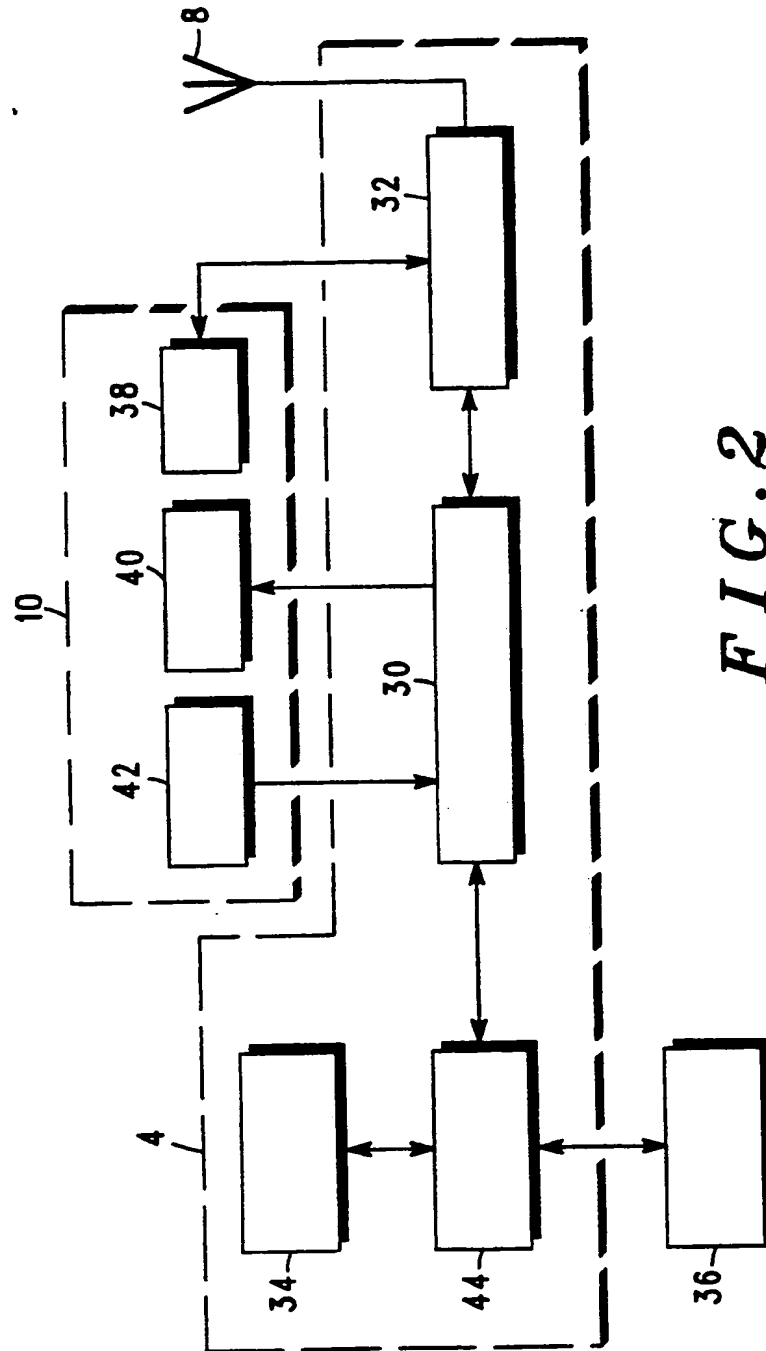


FIG. 2

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European Patent Office
Office européen des brevets



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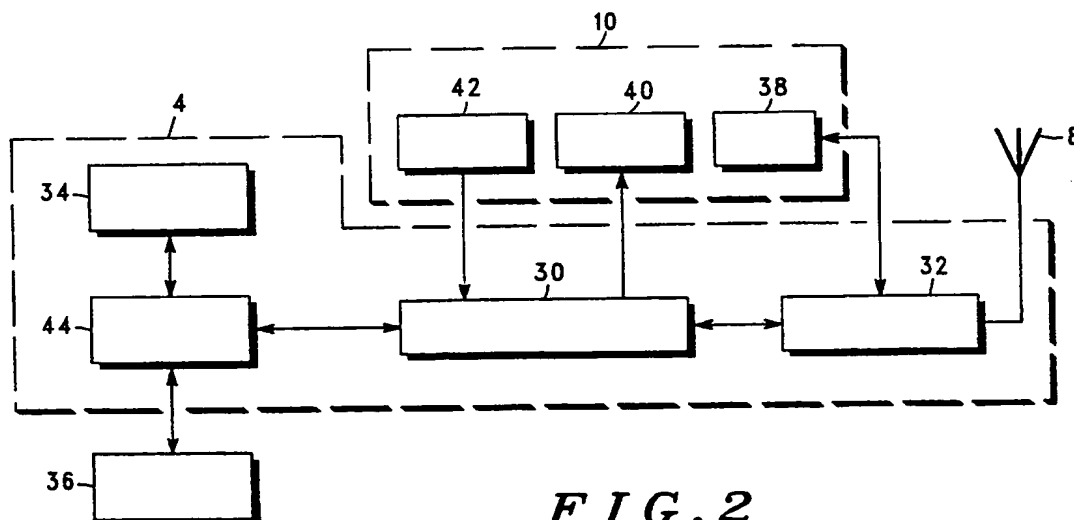
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23.10.91 Bulletin 91/43(71) Applicant: **STORNO A/S**
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**FIG. 2****EP 0 378 775 A3**



European
Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 89 12 0988

DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl.5) |
|---|--|--|---|
| Y | US-A-4 680 787 (MARRY) * claims 1-4,8,9,11,18-20,25,29; figures 6,7 ** column 3, line 44 - line 53; claims 32,36 ** column 8, line 7 - column 9, line 34 ** column 2, line 33 - line 37 * - - - | 1-5 | H 04 M 1/72 H 04 M 1/274 |
| Y | PATENT ABSTRACTS OF JAPAN vol. 10, no. 91 (E-394)(2148) April 9, 1986 & JP-A-60 233 967 (NIPPON DENKI) November 20, 1985 * the whole document * - - - | 1,2,4,5 | |
| Y | DE-A-3 702 509 (SIEMENS) * column 2, line 8 - line 13; claim 1; figure 1 ** column 2, line 34 - line 51 * - - - | 1,3,4,5 | |
| A | ERICSSON REVIEW no. 3, 1987, pages 141 - 150; G. JISHALM N. RYDBECK: 'Ericsson Telephones for Cellular Systems' * page 142, line 15 - line 18 ** page 142, line 24 - line 25 @ page 143, line 8 - line 10 @ page 147, line 98 - page 148, line 50 EP 89120988030* * page 149, line 13 - line 33 * - - - - - | 1,4,5,6 | |
| The present search report has been drawn up for all claims | | | TECHNICAL FIELDS SEARCHED (Int. Cl.5) |
| | | | H 04 M H 04 Q |
| Place of search | | Date of completion of search | Examiner |
| The Hague | | 29 August 91 | DE HAAN A.J. |
| CATEGORY OF CITED DOCUMENTS | | | |
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